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What is a super-recognizer?

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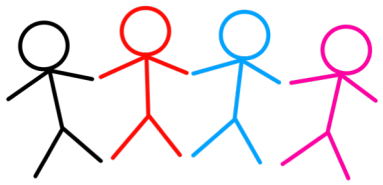
Identification

- Russell et al. 2009

- on the back of media attention

on prosopagnosia (very poor face recognition ability)

- 4 members of the public came forward with the ‘opposite problem’



“I’ve learned to stop surprising people with bizarre comments like, ‘Hey, weren’t you at that so-and-so concert last fall. . . . I recognize you.’ Before that, I’d occasionally make people uncomfortable with my recognition” (M.R.)

“I do have to pretend that I don’t remember [people], however, because it seems like I stalk them, or that they mean more to me than they do when I recall that we saw each other once walking on campus four years ago in front of the quad!” (C.S.)

Tests of Ability

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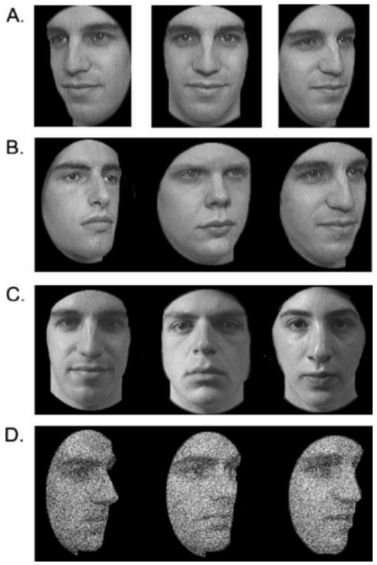
Before they were famous
Russell et al. (2009)



Cambridge Face Memory Task (CFMT)
Duchaine & Nakayama (2006)

Glasgow Face Matching Task (GFMT)
Burton et al. (2010)

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Alexander Petrov

Ruslan Boshirov

Recruitment

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- Self report
- Score on standardized test
- On the job performance

Theoretical Question

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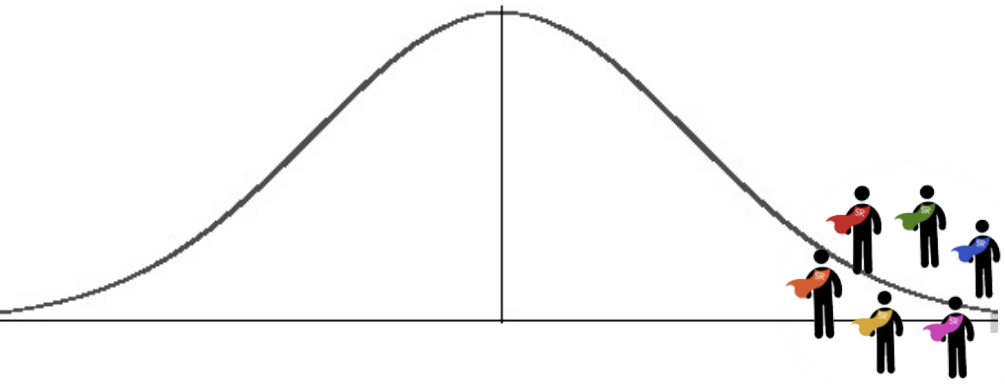
- Are super-recognizers the top end of a normal distribution or a distinct group?



OR

If a distinct group…

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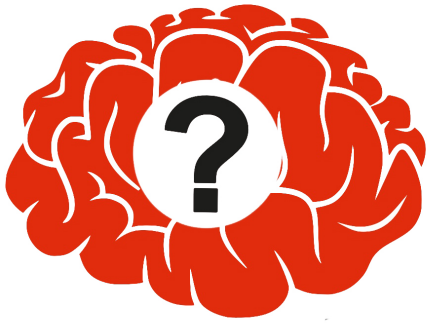
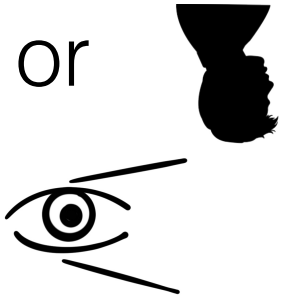
- Differences in brain structure, connectivity, or function.



- Differences in processing methods or strategies.



- Must hold at individual and group level!

Key Finding 1

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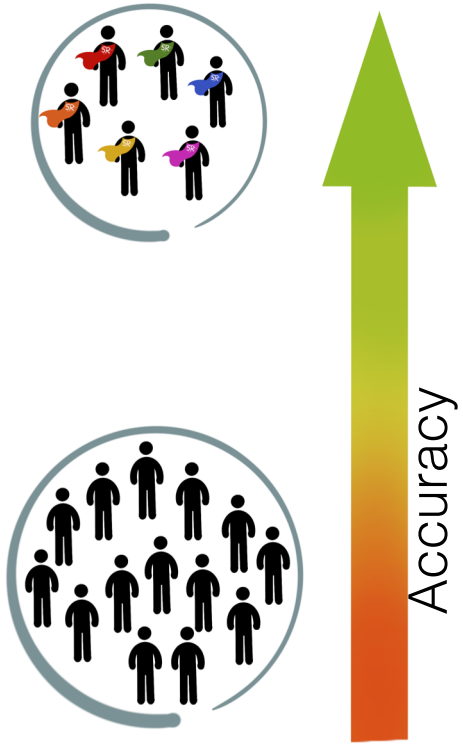
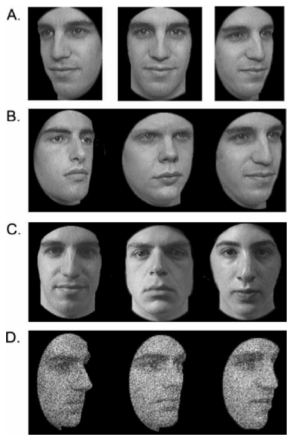
Groups of super-recognizers consistently outperform comparison groups at face recognition and face perception tasks.





Same or Different Identity?

Same or Different Identity?

Same or Different Identity?

Key Finding 2

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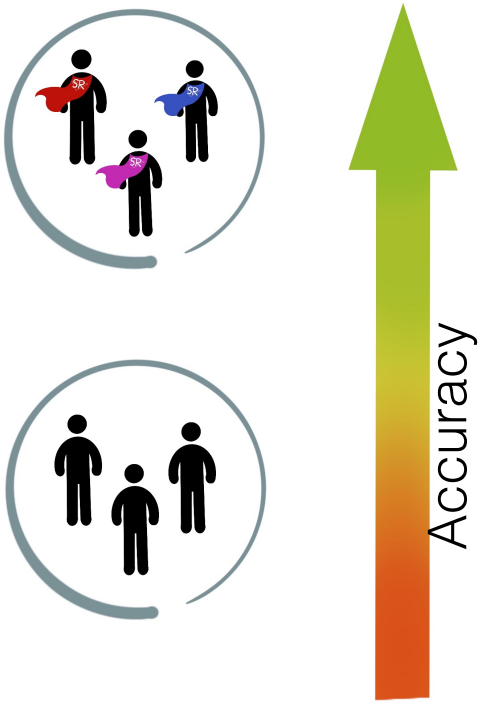
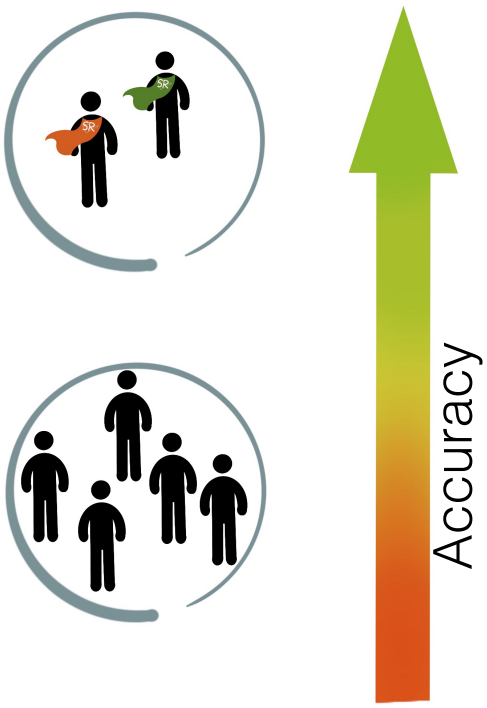
Super-recognizers outperform comparison groups on tasks of unfamiliar and familiar face matching.



Unfamiliar Face Matching



Familiar Face Matching

Key Finding 3

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Super-recognizers' ability does not extend beyond faces.

Key Finding 4

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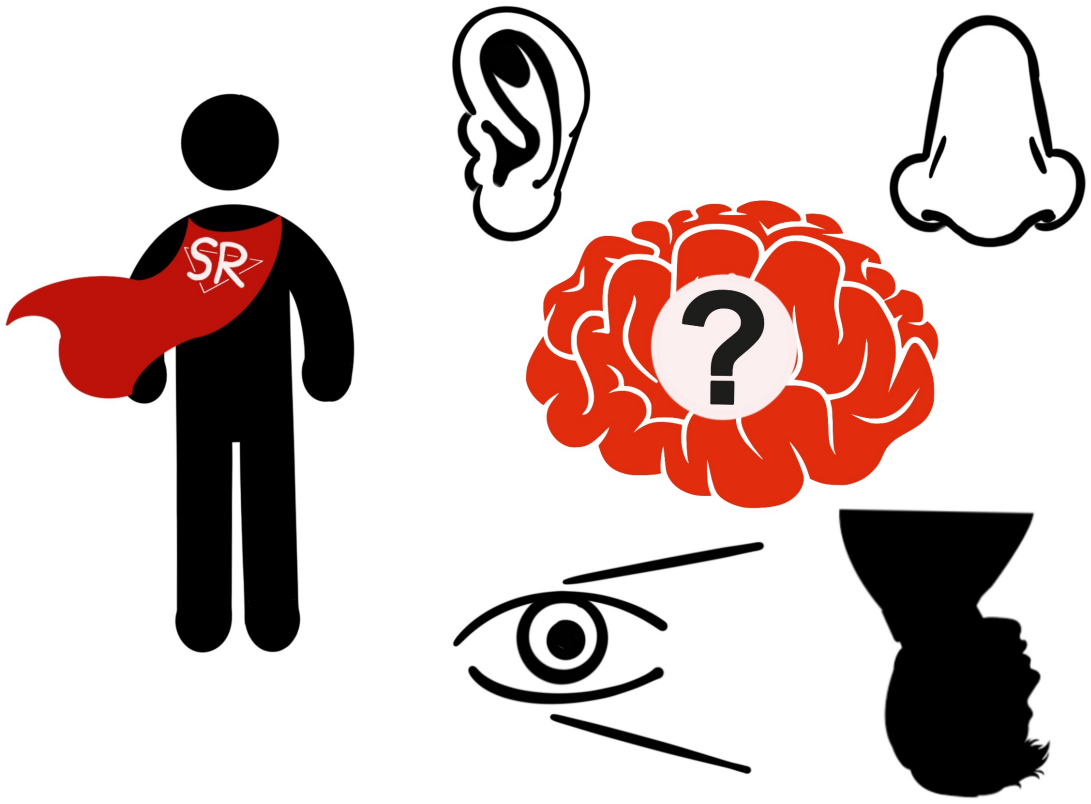
There is not compelling evidence that super-recognizers use more effective processing strategies.



Key Finding 5

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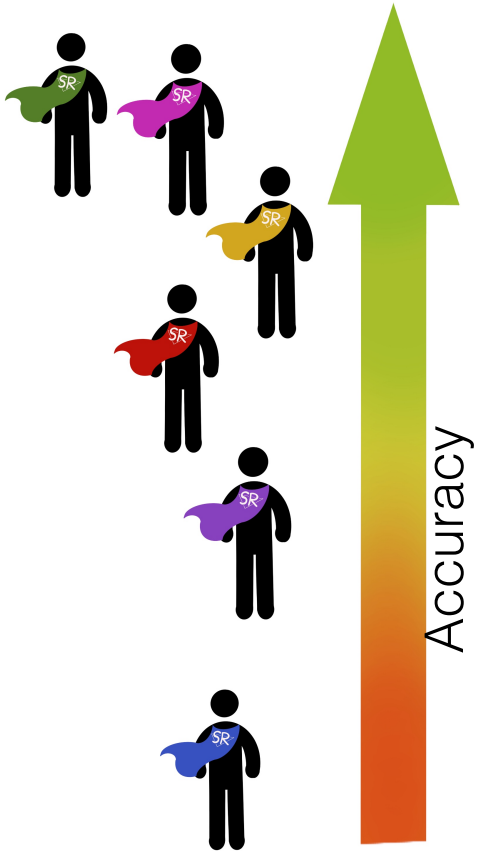
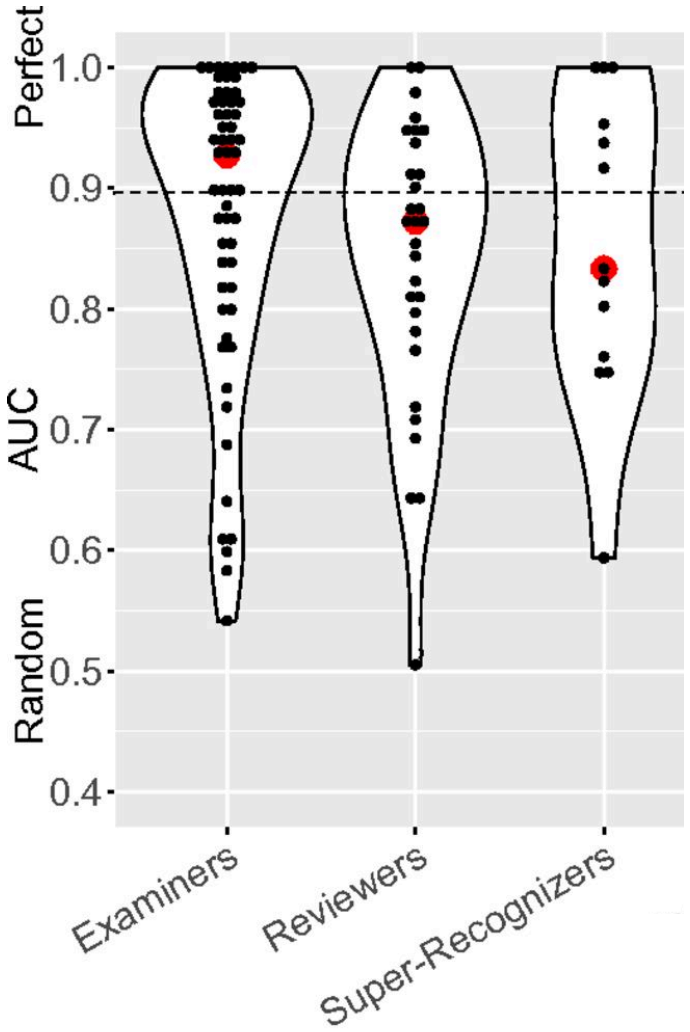
Not all super-recognizers in a group perform with expected level of accuracy (re-test reliability).




Perfect
1.0
0.9
0.8
AUC
0.7
0.6
Random
0.5
0.4
Examiners
Reviewers
Super-Recognizers

Key Finding 6

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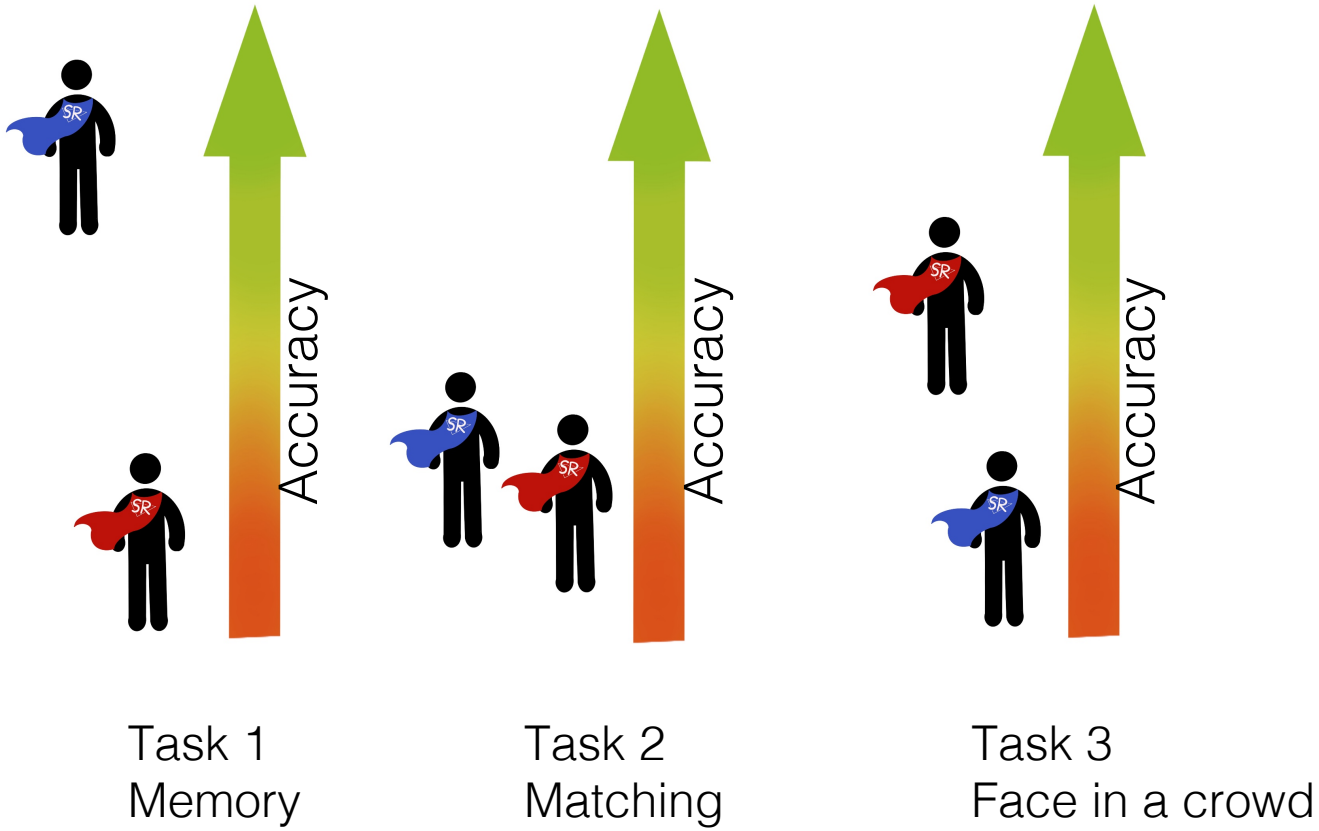
Performance of individual super-recognizers not necessarily consistent across different tasks.



Key Finding 7

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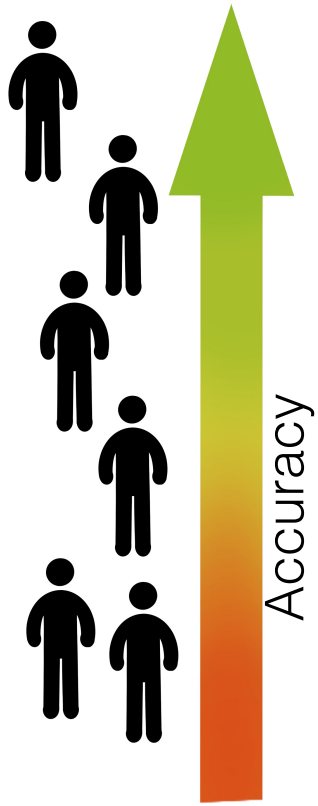
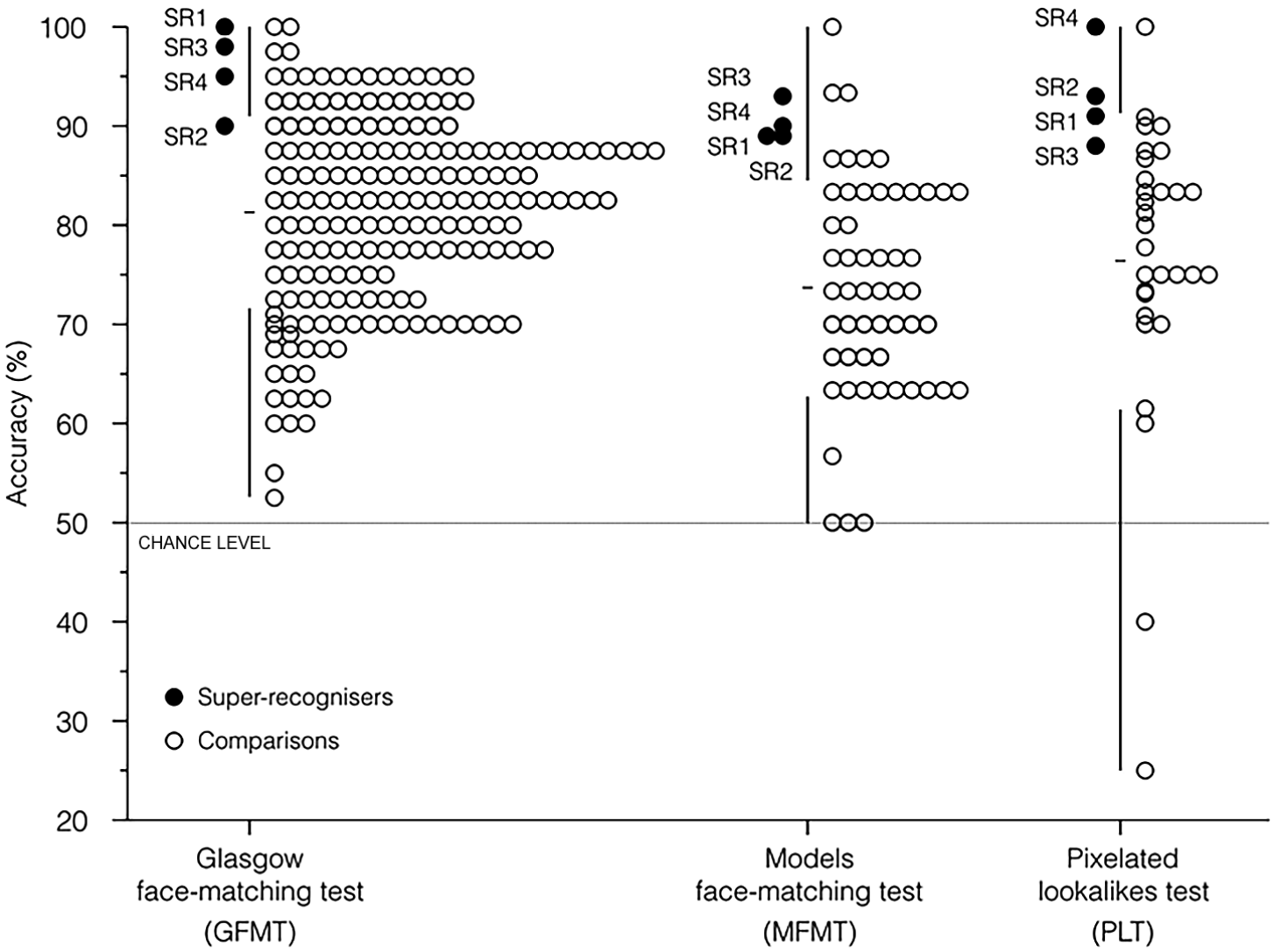
Some comparison participants perform with accuracy in the super-recognizer distribution.




Accuracy (%)
100
90
80
70
60
50
40
30
20
CHANCE LEVEL
SR1
SR3
SR4
SR2
SR3
SR4
SR1
SR2
SR4
SR2
SR1
SR3
Super-recognisers
Comparisons
Glasgow face-matching test (GFMT)
Models face-matching test (MFMT)
Pixelated lookalikes test (PLT)

Moving Forward

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1. A standard measure of super-recognizer status is needed.

1. Larger sample sizes.

1. A clear set of criteria for defining relevant comparison groups.

1. Should super-recognizers ever be tested as a group?

1. Acceptable methods of recruitment of super-recognizers.

1. Test super-recognizers on other tasks relevant for identification and against state of the art algorithms.

What is a super-recognizer?

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A super-recogniser is a person who performs with very high levels of accuracy on tasks of face-recognition

Warning!

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Super-recognizers are not infallible

Same

Different

Making the world safer?

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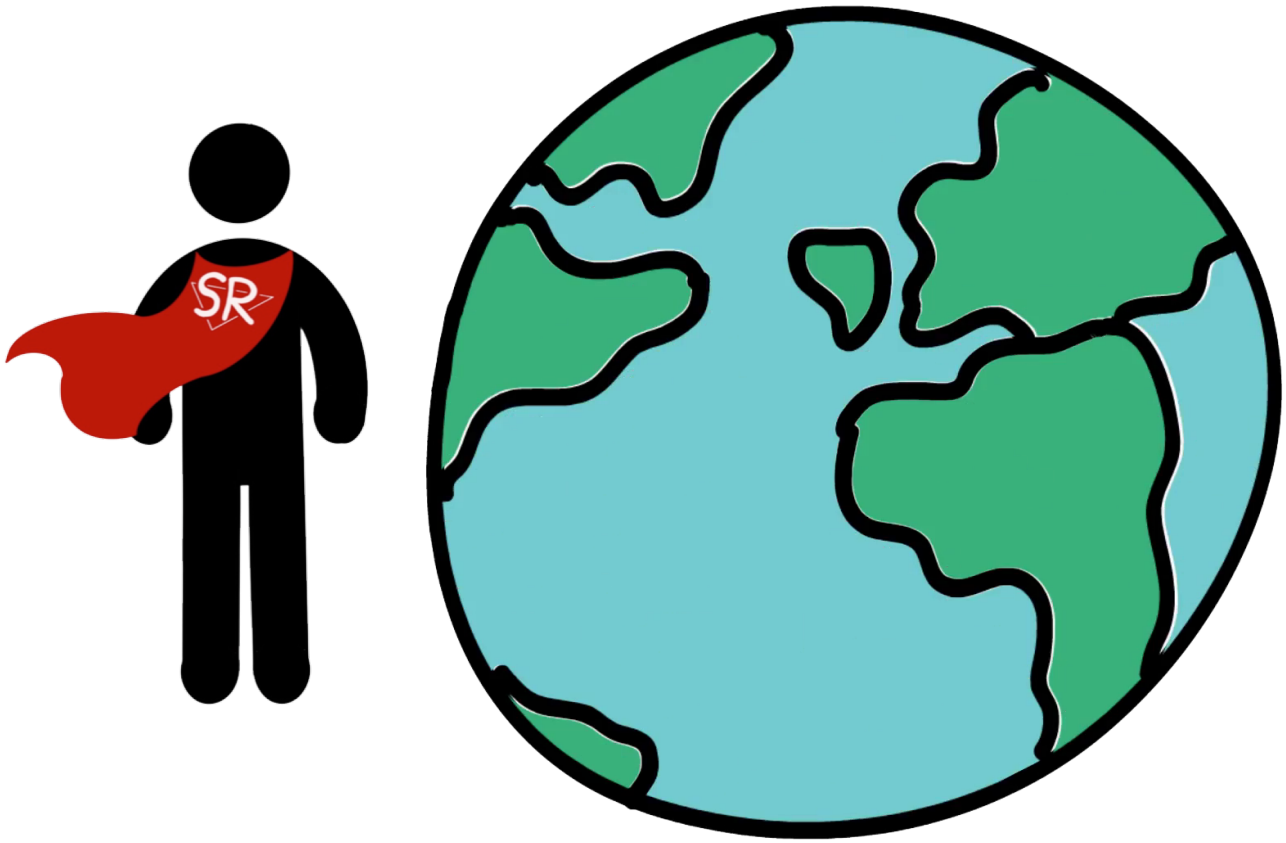

- Noyes, E., Phillips, P. J. & O'Toole, A . J. What is a super-recogniser? *Face processing: Systems, Disorders, and Cultural Differences. Nova, New York*. 173-201.

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